

WHAT IS CLAIMED IS:

- ~~1.~~ An optical polarizer, comprising:
a reflective polarizer which transmits light having a first polarization and reflects light which does not have the first polarization; and
5 a dichroic polarizer positioned in the same optical path as the reflective polarizer.
- ~~2.~~ The optical polarizer of claim 1 wherein the reflective polarizer has a first transmission axis and wherein the dichroic polarizer has a second transmission axis,
10 and further wherein the first transmission axis is aligned with the second transmission axis.
- ~~3.~~ The optical polarizer of claim 1 wherein the dichroic polarizer is positioned to provide antireflection on at least one side of the reflective polarizer.
- 15 ~~4.~~ The optical polarizer of claim 1 wherein the reflective polarizer comprises a multilayer stack of at least two materials, at least one of which is birefringent.
- ~~5.~~ The optical polarizer of claim 4 wherein the dichroic polarizer is incorporated
20 into at least one of the layers in the multilayer stack.
- ~~6.~~ The optical polarizer of claim 4 wherein at least one of the materials is polymeric.
- 25 ~~7.~~ The optical polarizer of claim 6 wherein the birefringent polymeric material is PEN.
- ~~8.~~ The optical polarizer of claim 5 wherein the multilayer stack comprises alternating layers of two polymeric materials.

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9. The optical polarizer of claim 8 wherein the two polymeric materials exhibit no refractive index difference for light of the first polarization, and further which exhibit a refractive index difference for light that does not have the first polarization.

5 10. The optical polarizer of claim 9 wherein the multilayer stack comprises alternating layers of PEN and coPEN.

11. The optical polarizer of claim 1 wherein the dichroic polarizer is bonded to the reflective polarizer.

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12. An optical polarizer, comprising:

a reflective polarizer which transmits light of a first polarization along a first transmission axis, and which reflects light of a different polarization; and

a dichroic polarizer having a second transmission axis substantially aligned with
15 the first transmission axis.

13. The optical polarizer of claim 12 wherein the dichroic polarizer is positioned to provide antireflection on at least one side of the reflective polarizer.

20 14. The optical polarizer of claim 13 wherein the reflective polarizer is comprised of a multilayer stack that includes at least one birefringent material.

15. The optical polarizer of claim 14 wherein the dichroic polarizer is incorporated into at least one of the layers in the multilayer stack.

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16. A display device, comprising:

a reflective-dichroic polarizer, the reflective-dichroic polarizer comprising:

a reflective polarizer which transmits light of a first polarization, and which reflects light of a different polarization; and

30 a dichroic polarizer in the optical path of the reflective polarizer;

wherein the reflective-dichroic polarizer is illuminated from at least one outside facing surface.

17. The display device of claim 16 wherein the dichroic polarizer is aligned to provide antireflection from a viewing side of the display device.

5 18. The display device of claim 16 wherein the reflective polarizer has a first transmission axis and wherein the dichroic polarizer has a second transmission axis, and further wherein the first transmission axis is aligned with the second transmission axis.